

CLAIMS

1. Flame retardant for polymeric compositions, which comprises a mixture of compounds of formula (I) and/or formula (II) and/or formula (III), wherein at least 80 mol % of the end groups are tribromophenyl-oxo-2-hydroxypropyl groups, and at most 20 mol % of the end groups are glycidyl groups, which composition has high molecular weight, has a free tribromophenol content less than 0.1 wt% of the whole flame retardant, and has a content of organic solvents, with boiling point lower than 250°C, lower than 100 ppm of the whole flame retardant.
2. Flame retardant according to claim 1, wherein 85 to 100 mol % of the end groups are tribromophenyl-oxo-2-hydroxypropyl groups and 0 to 15 mol % of the end groups are glycidyl groups.
3. Flame retardant according to claim 1, wherein the content of organic compounds, particularly solvents, with boiling point lower than 250°C, is lower than 50 ppm.
4. Flame retardant according to claim 1, comprising from 70 to 100 mol% of modified brominated epoxides (BEs) of formula (II), from 30 to 0 mol% of partly modified BEs of formula (III), and from 10 to 0 mol% of unmodified BEs of formula (I).
5. Flame retardant according to claim 1, having molecular weight from 7,000 to 50,000 (Dalton).
6. Flame retardant according to claim 1, having molecular weight higher than 7,000 and lower than 30,000 (Dalton).

7. Flame retardant according to claim 1, having an acid number less than 1 mg KOH/g.
8. Flame retardant according to claim 7, having an acid number less than 0.5 mg KOH/g.
9. Flame retardant according to claim 1, having an epoxy equivalent of more than 10,000.
10. Polymeric compositions, comprising a base polymer chosen from among polyethylene terephthalate or polybutylene terephthalate or mixtures thereof, or polyamides or polycarbonate and its alloys, and comprising at least one flame retardant according to anyone of claims 1 to 9.
11. Polymeric compositions according to claim 10, further comprising hindered phenol antioxidants.
12. Polymeric compositions according to claim 10, further comprising fillers and/or glass reinforcement and/or antioxidants and/or lubricants and/or pigments and/or anti-dripping agents and/or grades of talc that act as nucleating agents and that reduce the injection molding cycle time.
13. Method for the preparation of flame retardants according to anyone of claims 1 to 9, which comprises the steps of reacting low molecular weight brominated epoxide (LMW BE), having low volatile content, with tetrabromobisphenol-A (TBBA) and tribromophenol (TBP) in the presence of a catalyst.

14. Method according to claim 13, wherein the tribromophenol is replaced totally or partially by tribromophenyglycidyl ether.
15. Method according to claim 13, wherein the reaction takes place without any solvent at a temperature of 100 to 250°C.
16. Flame retardant for polymeric compositions, substantially as described and illustrated.
17. Polymeric compositions, substantially as described and illustrated.
18. Method for the preparation of flame retardants, substantially as described and illustrated.